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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,096

06/08/2006

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EXAMINER

HARRIS, GARY D

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1794

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DELIVERY MODE

03/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,096	Applicant(s) CHOI ET AL.	
	Examiner GARY D. HARRIS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/30/2008 has been entered.

Response to Arguments

Applicant's arguments filed 12/30/2008 have been fully considered with respect to claims 1-12 & 17-22 but are moot in view of the new ground(s) of rejection. Examiner notes that applicants invention appears to be based on a soft cobalt alloy with at least one element selected from Y, Ti, Zr, Hf, Nb, Ta having a particle size of 50 nm or less preferably in the range of 5 to 30 nm. Claim 1, would include particle sizes of 0 nm. These particles are mixed with a binder with a volume ratio of the matrix in the range of 5 to 50%. The reference now being used, Masaki et al. US 2002/001281 teaches this volume ratio as it relates to voids between the magnetic particles.

Claims 1-12 & 17-22 are examined in the instant application as follows:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "high frequency" in claim 17 is a relative term which renders the claim indefinite. The term "high frequency" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. High frequency could be interpreted as a radio frequency between audio and infrared, or a pitch that is perceived as above other pitches. Without a range of criticality (i.e. MHz), the claim is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 6, 7, 17, 19-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Masaki et al. US 2002/001281.

As to Claim 1, Masaki et al. US 2002/001281 discloses a ferromagnetic metal powder containing cobalt (Paragraph 18) with a mean particle size of 50nm (particle size from 25 to 78nm) (Paragraph 32). The ferromagnetic particles are dispersed in a binder (Paragraph 56) (applicant's nonmagnetic insulating organic powder). Masaki et al. discloses the voids in the magnetic layer to be not more than 30 percent by volume (Paragraph 95) and the binder is mixed with the ferromagnetic powder in at least 30 volume percent (Paragraph 93). Because the Masaki et al. void volume matches the volume percent of the binder added to the ferromagnetic particles as claimed by applicant, the Masaki et al. invention would achieve a similar result and meet applicant's claim limitations.

As to Claim 2 & 3, Masaki et al. US 2002/001281 discloses Fe or Fe alloy with Co and Ni (Paragraph 33).

As to Claim 4, Masaki et al. US 2002/001281 discloses metal comprising Fe and Co in the range of 5 to 45 atomic percent (Paragraph 33).

As to Claim 6, Masaki et al. US 2002/001281 discloses the use of binders resins including polymers (Paragraph 54).

As to Claim 7, Masaki et al. US 2002/001281 discloses a ferromagnetic metal powder containing cobalt (Paragraph 18) dispersed in a binder (Paragraph 56)

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(applicant's nonmagnetic insulating organic powder). Masaki et al. discloses the preference for the voids in the magnetic layer to be between 10 and 30 percent by volume (Paragraph 95). These voids are considered by the examiner to contain the binder (Paragraph 57) as both the binder and the ferromagnetic material are mixed and would meet the claim limitation.

As to Claim 17, Masaki et al. US 2002/001281 discloses a ferromagnetic metal powder containing cobalt (Paragraph 18) with a mean particle size of 50nm (particle size from 25 to 78nm) (Paragraph 32). The ferromagnetic particles are dispersed in a binder (Paragraph 56) (applicant's nonmagnetic insulating organic powder). Masaki et al. discloses the voids in the magnetic layer to be not more than 30 percent by volume (Paragraph 95) and the binder is mixed with the ferromagnetic powder in at least 30 volume percent (Paragraph 93). Because the Masaki et al. void volume matches the volume percent of the binder added to the ferromagnetic particles as claimed by applicant, the Masaki et al. invention would achieve a similar result and meet applicant's claim limitations.

As to Claim 19, Masaki et al. US 2002/001281 Masaki et al. US 2002/001281 discloses Fe or Fe alloy with Co (Paragraph 33).

As to Claim 20, Masaki et al. US 2002/001281 discloses the use of binders resins including polymers (Paragraph 54).

Claim Rejections - 35 USC § 102 / 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 8-12 and 21-22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Masaki et al. US 2002/001281.

As to Claim 5, Masaki et al. US 2002/001281 discloses a spacing of the metal particles to be 30 percent by volume and would inherently meet the claim limitations as the particle would necessarily/inherently exchange couple. Although the prior art does not disclose exchange coupling, the claimed properties are deemed to be inherent to

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the structure in the prior art since the Masaki et al. reference teaches an invention with a substantially similar structure and chemical composition having a cobalt percentage similar to applicant's claim (5-45), a similar average particle size of 50nm, and a void volume spacing filled with a similar binder. Since the claimed invention uses similar products of identical structure and composition cannot have mutually exclusive properties the burden shifts to the applicant to show otherwise.

Alternatively, a spacing of magnetic particles using applicants empirical formulas based on the volume would be obvious to one of ordinary skill in the art. In the event it is shown that Masaki et al. US 2002/001281 does not disclose the claimed invention with sufficient specificity, the invention is obvious because Masaki et al. US 2002/001281 discloses the claimed constituents and discloses that they may be used in combination.

As to Claim 8-10 and, Masaki et al. US 2002/001281 does not disclose complex permeability as they relate to applicants empirical formula. However, this feature would be necessarily inherent as both applicant and Masaki disclose Fe-Co-Ni materials with a polymeric binder. As discussed above, Masaki uses a similar composition, similar binders, and void spacing to determine the binder volume. It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics

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of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

As to Claim 11 & 22, Masaki et al. US 2002/001281 does not disclose the saturation magnetization or complex permeability as it relates to applicant's empirical formula. As discussed above, since both applicant and Masaki are using a similar Fe-Co alloy material having a similar percentage of cobalt, with a similar particle size they would necessarily/inherently meet the claim limitations for saturation magnetization of 5 kG or more. It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

As to Claim 12 & 21 Masaki et al. US 2002/001281 does not disclose the resistivity as it relates to the claim. However, since both applicant and Masaki are using a similar Fe-Co material with a similar particle size they would necessarily/inherently meet the claim limitations. As discussed above, Masaki uses a similar composition,

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similar binders with fluorocarbons, and void spacing to determine the binder volume. It is interpreted that the voids volume (or spacing) would promote the resistance. Since Masaki et al. discloses a void volume having similar particle sizes they would be optimized by one of ordinary skill in the art through routine experimentation as this would be a results effective variable MPEP 2144.05 that would be optimized by one of ordinary skill in the art through routine experimentation to optimizing the void volume as it relates to the addition of binder.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. US 2002/001281.

As to Claim 18, Masaki et al. US 2002/001281 discloses a ferromagnetic metal powder containing cobalt (Paragraph 18) with a particle size from 25 to 78nm (Paragraph 32) overlapping applicants range. Nevertheless, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that choosing the overlapping portion, of

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the range taught in the prior art and the range claimed by the applicant, has been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY D. HARRIS whose telephone number is (571)272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

/Gary D. Harris/
Examiner, Art Unit 1794

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